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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,355	06/09/2005	Klaus K Nielsen	0147-0262PUS1	5659

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
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BAUM, STUART F

ART UNIT	PAPER NUMBER
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1638

NOTIFICATION DATE	DELIVERY MODE
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10/29/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/507,355	<b>Applicant(s)</b> NIELSEN ET AL.	
	<b>Examiner</b> STUART F. BAUM	<b>Art Unit</b> 1638	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 July 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 65-105 is/are pending in the application.
- 4a) Of the above claim(s) 67 and 81-85 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 65,66,68-80,88-99 and 102-105 is/are rejected.
- 7) ☒ Claim(s) 86,87,100 and 101 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

1. The amendment filed 7/20/2009 has been entered.
2. Claims 65-105 are pending.  
  
Claims 1-64 have been canceled.  
  
Claims 67, 81-85 are withdrawn from consideration for being drawn to a non-elected invention.
3. Claims 65-66, 68-80, 86-105, including SEQ ID NO:1, 2 and 3 are examined in the present office action.
4. Rejections and objections not set forth below are withdrawn.
5. The text of those sections of Title 35, U.S. Code not included in this office action can be found in a prior office action.
6. This application contains claims 67 and 81-85 drawn to an invention nonelected with traverse in the reply filed on 5/23/2007. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Claim Objection***

7. Claim 74 is objected to for being dependent on claim 72 instead of claim 73.  
  
Claim 76 is objected to for reciting "a polynucleotide" instead of --the polynucleotide--.

***Written Description***

8. Claims 65-66, 68-80 and 88-99 remain rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection is maintained for the reasons of record set forth in the Official action mailed 3/18/2009. Applicant's arguments filed 7/20/2009 have been fully considered but they are not persuasive.

Applicants contend they have described the genomic sequence of SEQ ID NO:2, the cDNA sequence of SEQ ID NO:1 and the protein sequence of SEQ ID NO:3 (page 14 of Remarks, 2<sup>nd</sup> full paragraph). Applicants contend the specification describes 11 amino acid residues in plant PEBP sequences which have been identified as essential for a functional protein (page 14 of Remarks, 3<sup>rd</sup> full paragraph). Applicant contends Figure 5b provides a consensus sequence between multiple members of the PEBP protein family (page 14 of Remarks, 3<sup>rd</sup> full paragraph). Applicants contend LpTFL1 protein only differs from the consensus sequence at position 110 (page 14 of Remarks, last sentence). Applicants contend the specification teaches multiple methods for isolating additional sequences which have LpTFL1 activity (page 15 of Remarks, 1<sup>st</sup> full paragraph). Applicants contend that based on their disclosure they had possession of a genus of sequences having 83% identity to SEQ ID NO:1 or 2 or to a sequence encoding SEQ ID NO:3 (page 15 of Remarks, 2<sup>nd</sup> full paragraph). Applicants contend they have provided examples in which LpTFL1 is overexpressed in Arabidopsis, Rye grass and Red Fescue and flowering is prevented or delayed (page 16 of Remarks). Applicants contend that TFL1 and

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CEN do not fall within the claimed breadth of the instant invention (page 17 of Remarks, 3<sup>rd</sup> full paragraph).

The Office contends Applicants are not in possession of the genus of sequences encompassed by the recitation of 83% identity to SEQ ID NO:1 or 2 or a nucleic acid encoding the polypeptide of SEQ ID NO:3. The Office acknowledges Applicants disclosure of SEQ ID NO:1 and 2 and the encoded polypeptide of SEQ ID NO:3. The Office contends that the protein alignment in Figure 5b includes protein sequences that do not have the same activity as LpTFL1 when transformed into a plant. For example, Applicants state “Expression of the TFL1 gene in tobacco from the 35S CaMV constitutive promoter, for example, does not affect the flowering time and does not affect the plant architecture of tobacco (Amaya et al., 1999) (page 3 of specification, lines 18-20). In addition, Figure 5b also contains amino acid sequences which have not been shown to have the same activity as LpTFL1 when transformed into a plant. The Office contends that disclosing 11 amino acids out of 173 (the number of amino acids in LpTFL1) does not convey knowledge of structure/function relationship for the broadly claimed genus. The Office notes that the claims are drawn to sequences having 83% identity to a nucleic acid sequence but applicants have not disclosed any nucleic acid sequences that exhibit 83% identity to SEQ ID NO:1 or 2, or sequences that encode SEQ ID NO:3 and that were known at the time of filing. Therefore, the written description requirement is not satisfied for claims drawn to 83%, 85%, 86%, 88%, 90% and 92% identity to SEQ ID NO:1 or 2 or sequences that encode SEQ ID NO:3.

*Scope of Enablement*

9. Claims 102-105 remain rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a transgenic plant comprising an isolated polynucleotide of SEQ ID NO:1 or 2 encoding SEQ ID NO:3 or a polynucleotide exhibiting 83%, 85%, 86%, 88%, 90%, 92% or 95% sequence identity with SEQ ID NO:1 or 2 or a nucleotide sequence encoding SEQ ID NO:3 and wherein the encoded polypeptide comprises the amino acid sequence of SEQ ID NO:30 or 31, and wherein expression of the polynucleotide extends the vegetative-inflorescence phase, increases lateral branching, represses flowering in said plant in the first year of growth, and/or represses flowering in said plant after the first year of growth, does not reasonably provide enablement for a transgenic plant comprising a polynucleotide sequence having at least 85% identity with the nucleotide sequence of SEQ ID NO:1 or 2 or a sequence encoding SEQ ID NO:3. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. This rejection is maintained for the reasons of record set forth in the Official action mailed 3/18/2009. Applicant's arguments filed 7/20/2009 have been fully considered but they are not persuasive.

Applicants contend methods of making a transgenic plant are well known in the art. Applicants submit that claims 102-105 are enabled (page 26 of Remarks, bottom paragraph).

The Office contends that while claims drawn to 85% identity to SEQ ID NO:1 or 2 or sequences that encoding SEQ ID NO:3 fulfill the written description requirement, they are not enabled. The Office contends adding the functional limitation as recited in claim 65 and a limitation that the encoded polypeptide also comprises SEQ ID NO:30 or 31 will obviate the

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rejection. The Office contends that without a functional limitation, one skilled in the art would not be apprised of an assay for testing each sequence that falls within the scope of the claim. See *In re Fisher*, 166 USPQ 18, 24 (CCPA 1970), which teaches that the allegedly pioneering nature of an invention does not obviate the need for "a reasonable correlation" between the scope of the claims and "the scope of enablement provided by the specification", wherein "the scope of enablement obviously varies conversely with the degree of unpredictability of the factors involved" in "cases involving unpredictable factors, such as most chemical reactions and physiological activities".

Applicants contend that a table which indicates sequences having the required degree of homology have been submitted with the amendment (page 21 of Remarks, bottom paragraph).

The Office contends that the sequences listed in the table were not available as of the filing date of the application.

10. Claims 86-87 and 100-101 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**11. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stuart F. Baum whose telephone number is 571-272-0792. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Stuart F. Baum/  
Stuart F. Baum Ph.D.  
Primary Examiner  
Art Unit 1638  
October 25,2009